

A NEW SPECIES OF THE GENUS *SIMULIUM* FROM JIANGXI PROVINCE (DIPTERA, SIMULIIDAE)

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Abstract A new species, *Simulium (Simulium) lushanense* sp. nov., from Jiangxi Province is described. It belongs to the *grisefrons* group of subgenus *Simulium*. The new species is characterized by the swollen pupal gill filaments.

Key words Diptera, Simuliidae, *Simulium (Simulium)*, new species, Jiangxi Province.

The simuliidae fauna of Jiangxi Province has been poorly studied, only 3 species were reported by Sun (1992) and Chen *et al.* (2003). In this paper, the authors report one new species, *S. (S.) lushanense* sp. nov. The type specimens are kept in the Department of Biology of the Guiyang Medical University.

Simulium (Simulium) lushanense sp. nov. (Figs. 1-9)

Female and larva. Unknown.

Male. Body length 2.8 mm. Wing length 2.5 mm.

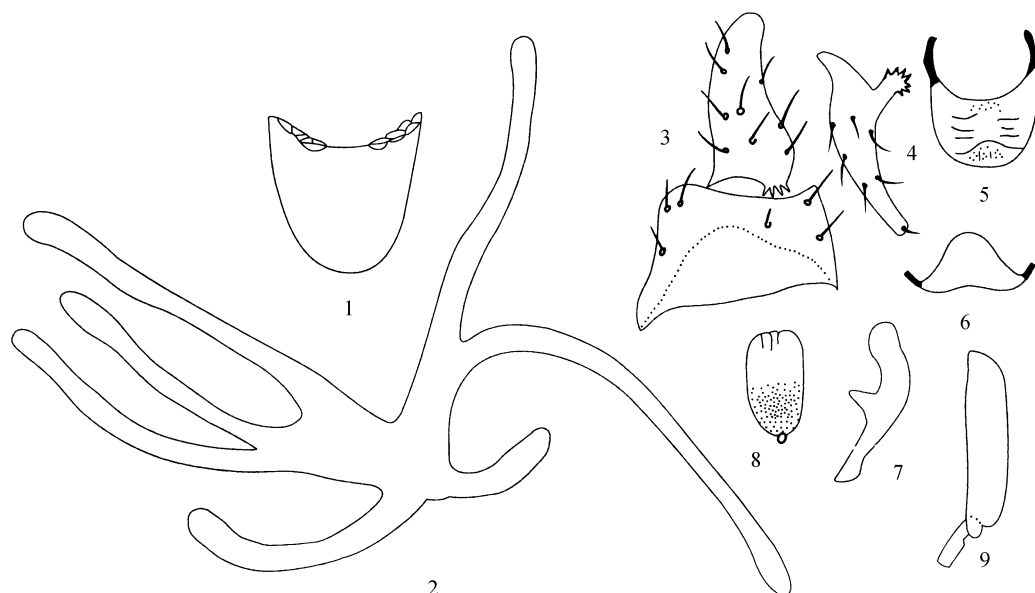
Head. Width slightly wider than thorax. Upper eye consisting of 11 horizontal and 12 vertical rows of large facets on each side. Clypeus grey-dusted, with some pale hairs. Antenna composed of 2+9 segments, dark brown except scape yellow; 1st flagellar segment about 1.8 times as long as the following one. Maxillary palp blackish with 5 segments; 3rd segment not enlarged, sensory vesicle elongated, small about 1.5 times as long as wide and 0.23 as long as respective segment. Thorax. Scutum brownish black, with white pruinose pattern, composed of an anterior pair round spots on shoulders extending posteriorly along lateral margins up to base of wing and a large transverse spot entirely covering prescutellar area which is not contiguous to anterior spots. Scutum uniformly covered with black brown recumbent pubescences. Scutellum blackish brown, shiny, with long black hairs. Postscutellum blackish brown and bare. Pleural membrane and katapisternum bare. Legs. Foreleg pale yellow except distal 1/4 of femur, tibia and tarsi which are dark brown; midleg dark brown except base of tibia, basitarsus and basal 3/5 of second tarsomere pale yellow; hindleg except trochanter, basal 3/4 of femur, medium large portion of outer surface of tibia, basal 3/5 of basitarsus and second tarsomere pale yellow, the rest dark brown. Hind basitarsus parallel-sided, W:L ratio about 1.0:5.0, calipala about 1/2 width of basitarsal tip, reaching just front of pedisulcus. Wing. Costa with spinules as well as hairs; subcosta and basal section of radius bare. Hair tuft at base of costa and stem vein black.

Abdomen. Basal scale brownish black with fringe of dark hairs; dorsal surface of abdomen except 2nd segment with a pair of large, dorsolateral, whitish iridescent spots broadly connected to each other in middle, the rest brownish black, shiny, with dark hairs. Genitalia. Coxite in ventral view somewhat conical in shape, about 0.6 length than wide; style nearly 2.5 times as long as its greatest breadth near subbase and about twice as long as coxite, distal end rounded and with a subapical spine; each style on dorso-internal surface bearing a small basal protuberance strongly sclerotized and bearing several small teeth on its anterior and apical surface. Ventral plate very characteristic, in ventral view somewhat saddle-shaped, with rounded posterior margin and almost smooth, ventral plate with a moderately median process narrowed to more or less small rounded distal tip. Median sclerite broad, shoehorn shaped. Parameres each with 7 or 8 distant hooks.

Pupa. Body length about 2.6 mm.

Head and thorax. Integument yellow, moderate covered with disc-like tubercles, which are appearing to have more distinct depression in the center. Head with 1 facial pair and 2 frontal pairs of simple trichomes, whereas thorax with 5 pairs of trichomes, all long, each split into 2-3 branches. Gill composed of 2 inflated horns with 6 tube-like filaments which are about 1/3 length than pupal body: ventral horn with 2 variable length tube-like filaments; while dorsal one with 4 variable length tube-like filaments, 3 of among them each arising directly from tip of horn, and another one arising from base of horn. All filaments distal end rounded and with numerous transverse ridges and densely covered uniformly with minute tubercles.

Abdomen. Tergum 2 with 5 short and 1 long simple setae on each side; terga 3 and 4 each side with 4 hooked spines on posterior margins; terga 8 and 9 each with a cross row of spine-combs directed posteriorly behind anterior margin and also comb-like groups of minute spines laterated to each row; tergum 9 with terminal



Figs 1-9. *Simulium (Simulium) lushanense* sp. nov. 1. Cocoon. 2. Filaments. 3. Coxite and style of male. 4. Style in lateral view. 5. Ventral plate. 6. Ventral plate in end view. 7. Ventral plate in lateral view. 8. Median sclerite. 9. 1st tarsomer of male hind leg.

hooks on each side. Sternum 5 with a pair of widely separated bifid hooks on each side; sternum 6 and 7 each with a pair of closed together bifid hooks on each side. Cocoon. Shoe-shaped with low neck, closely woven except near anterior end loosely woven, giving rise to several interspaces in the webs anterolaterally.

Type materials. Syntype ♂, reared from pupa, slide-mounted with pupal exuvia, was collected in a small, shaded stream from Guanyinqiao, Lushan, Jiangxi Province (29°33' N, 116°03' E; alt. 300 m.), 22 July 2005, was taken from trailing grasses exposed to the sun by KANG Zhe.

Distribution. Jiangxi, China.

Remarks. According to the ventral plate not serrated and the 6-filamented pupal gill, the new species seems belongs to the *griseifrons* group as defined by Takaoka and Davies (1995). This new species is very distinctive

among species of *Simulium* by the swollen pupal gill filament, the *S. (S.) grossifilum* Takaoka and Davies, 1995 also shows this character. However, the latter species is easily differentiated by the several characters including the shape of male genitalia and the pupal cocoon with larger dorsolateral windows and the head and thorax with dendritic setae.

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江西省蚋属一新种 (双翅目, 蚋科)

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摘 要 首次记述江西省蚋科 1 新种, 庐山蚋 *Simulium (Simulium) lushanense* sp. nov.。新种依其雄性生殖腹板光裸, 蛹具 6 条呼吸丝, 似应隶属于蚋亚属的灰额蚋组 *griseifrons*

关键词 双翅目, 蚋科, 蚋属蚋亚属, 新种, 江西省.

中图分类号 Q969.442.9

group. 与报告自马来西亚的显丝蚋 *S. (S.) grossifilum* Takaoka & Davies 近似, 但后者的雄性尾器与本种迥异, 蛹的头毛树状, 茧具前侧窗等特征, 可资鉴别。